sterol (0·3 g) m.p. 139° (lit.[2] m.p. 139–140°). M^+ *m/e* 414 and CH analysis. The mass, NMR, IR spectra were indistinguishable from those reported earlier.[3–5] Acetate m.p. 123° (lit.[2] m.p. 120–1°). A further extraction of the residue with 90% EtOH, followed by concentration of the extract and extraction with EtOAc gave a residue which was dissolved in 50% MeOH and the solution washed with CCl_4. The solvent was removed and the residue chromatographed on polyamide. Elution with 20% MeOH gave a crystalline compound (0·14 g, pale yellow prisms from EtOH–H_2O) m.p. 275° (*d*), molecular formula $C_9H_6O_4$ (M^+ *m/e* 178); λ_{max}^{MeOH} 252, 259, 296, 320 sh, nm; $\lambda_{max}^{MeOH+AlCl_3}$ 266, 310, 366 nm; $\lambda_{max}^{MeOH+AcONa}$ 267, 333 nm; IR. ν_{max}^{KBr} 3300–2500 (br.), 1640, 1608 cm^{-1}, NMR (acetone *d*). τ 1·96 (1 H, *d*, *J ca* 6 Hz), 3·59 (1 H, *d*, *J ca* 1·5 Hz), 3·78 (1 H, *d*, *J ca* 1·5 Hz), 3·80 (1 *H*, *d*, *J ca* 6 Hz). These data are in excellent agreement with those of 5,7-dihydroxychromone [6–8] Synthetic 5,7-dihydroxychromone[8] proved to be identical (m.p., IR, UV, NMR) to that isolated from the seeds.

Further elution of the polyamide column gave: kaempferol-3-galactoside, quercetin-3-galactoside, kaempferol and quercetin all identified with the procedures outlined by Mabry *et al*[9]

As far as we know, 5,7-dihydroxychromone has previously been isolated only from *Arachis hypogoea*[6] and *Mentha longifolia* Hudson.[7]

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ALKALOIDS FROM *FAGARA MAYU* BARK

I. A. BENAGES, M. E. A. DE JUAREZ and S. M. ALBONICO
Facultad de Farmacia y Bioquímica, Junin 956, Buenos Aires, Argentina
and
A. URZUA and B K. CASSELS
Departamento de Química, Universidad Técnica del Estado, Santiago, Chile

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Plant. Fagara mayu (Bert. ex Hook. et Arn.) Engler. Voucher specimen deposited in the Museo Nacional de Historia Natural (Santiago, Chile). *Source.* Isla Mas-a-Tierra, (Juan Fernandez) Chile. Material collected in February 1973 (summer).

Previous work No work has been reported on this species Quaternary bases have been reported in all other South American *Fagara* that have been studied.[1]

Present Work. The dried, powdered bark (2,6 kg) was extracted with light petrol (60–80°) and then with MeOH. The light petrol extract (180 g) was treated with 1 N HCl (50 ml × 4) until all the alkaloids were removed. The acid fraction was extracted with $CHCl_3$ (100 ml × 3) giving 75 mg of crystalline *cantin-6-one* m.p. 158–160° (lit [2] m.p 159–160°) The mother liquors were evaporated and the residue (360 mg) was chromatographed over silica gel (25 g) Using as eluent $CHCl_3$ with 1% EtOH. *dictamnine* (36 mg) m p 133–134° (lit [3] 134–135°) was obtained.

The MeOH extract (200 g) was treated with 0·3 N HCl (300 ml) and extracted with $CHCl_3$ (100 ml × 6) to afford an alkaloid fraction (*A*) (9·6 g) The acid solution was basified (pH 10) and extracted with $CHCl_3$ (100 ml × 5). Evaporation of the $CHCl_3$ gave a second alkaloid fraction (*B*) (8 g). The aqueous basic solution was neutralized to pH 6 (*C*)

Fraction A This was chromatographed over silica gel (9·6 g of extract on 400 g SiO_2) to give 450 mg of crude *chelerythrine* (eluted with 1.1 Et_2O–$CHCl_3$), crystallized as *nitrate*, m.p. 236–238 (lit [4] 240°) A mixture of several bases (1·38 g) (A_1) was eluted with 1.4 Et_2O–$CHCl_3$ and *cantin-6-one* (1 18 g) was eluted with 1 9 Et_2O–$CHCl_3$, m p 158 160

Fraction A_1 was chromatographed over alumina (80 g, grade II) to give *dictamnine* (58 mg) eluted with C_6H_6–$CHCl_3$ (4 1), m p. 129–133° (lit [3] 134–135), *γ-fagarine* (41 mg) eluted with C_6H_6–$CHCl_3$ (1:1) (lit [5] 142°) and *skimmianine* (297 mg) eluted with C_6H_6–$CHCl_3$ (1 2), m p 175–176 (lit.[3] 174)

Fraction B The material (0 8 g) was chromatographed over silica gel (40 g), eluted with $CHCl_3$–EtAcO (1 4) to give a crystalline *alkaloid* (88 mg), m.p 139–140 (EtAcO), M^+ 273 $[\alpha]_D^{26}$ −24° (c, 1%, MeOH). This alkaloid did not correspond to any previously reported in the literature. Work on its structure is continuing and will be reported on later

Fraction C After chromatography on cellulose (HCl 1% as eluent) this fraction yielded 110 mg of *magnoflorine* crystallized as picrate, m.p. 224–227° (lit [6] 224–226°). All the alkaloids were identified by comparing the UV, IR and NMR spectra with those of authentic samples and by m p , and co-chromatography (TLC three solvents)

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